

Abstract

A method for removing material from the surface of a semiconductor wafer with a chemical mechanical polishing process is described. The method uses a polishing pad on which a line-pattern of grooves is formed. The pattern comprises orderly spaced grooved-area and area without grooves. The method combines information of the surface topography of the wafer, the nature of the material to be removed, and the available groove pattern on the surface of the polishing pad to generate a process recipe in which the resident time of portions of the semiconductor wafer spends at the grooved and un-grooved areas of the polishing pad during the chemical mechanical polishing process is pre-determined.